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not materially different from other districts passed over in our previous route. Of plants not elsewhere noticed may be mentioned *Sphaeralcea acerifolia* Nutt. and *Rudbeckia occidentalis* Nutt. Near the summit of the high rocky peak overlooking Snake and Wind River valleys was found a new species of *Draba* characterized by Dr. Gray, under the name of *Draba ventosa* n. sp. (see Appendix, No. 15): also *Aster montanus* Rich, the latter only known from high northern collections in British America.

From this accessible pass, by which the Yellowstone Park can be reached on a very direct route, we passed rapidly down the open valley of Wind River and reached our previous rendezvous at Camp Brown, on September 12th, after just two months' absence.

NOTE.—An appendix, containing characters of new species, etc., will follow and conclude this series of articles.

REVIEWS AND BOOK NOTICES.

THE ZOOLOGICAL RECORD FOR 1871.*—To those who live away from libraries and would keep themselves informed as to the annual progress in any department of descriptive zoology, this record is invaluable. Working naturalists, also, more favorably situated, cannot do without it. We have found but few omissions in it, and American articles and memoirs are faithfully reported. The volume has been slow in making its appearance, and we hope better fortune and better health will fall to the lot of the editor and his assistants in the preparation of the volume for 1872.

BOTANY.

THE FERTILIZATION OF GENTIANA BY HUMBLE BEES.—The closed gentian (*Gentiana Andrewsii*) has flowers an inch and a quarter or more in length. These inflated, bright blue flowers of late autumn appear to be always in the bud, as they never open. The corolla is twisted up so as to leave no opening at the top. The flowers are all nearly erect with two stigmas considerably above the five anthers. I see but one way in which it can be fertilized, that is by insects. Several of my students, as well as myself

* Being vol. viii, of the Record of Zoological Literature, edited by Alfred Newton, London, 1873. Van Voorst. 8vo. pp. 496.

more than two years ago, have often seen humble bees entering these flowers. They pry or untwist the opening with their mouth organs and legs, and then pop into the barrel-shaped cavity, which they just fill.

THE DESMIDS.—O. Nordstedt has published in the part bearing date 11th Sept. of the “Lunds Universitets Arsskrift” an extensive memoir on the *Desmideæ* of S. Norway; over 260 species are described, of which some 20 or more are new. In the same journal Nordstedt describes and figures a new species of *Spirogyra* from Scania (*S. velata*).—*Journal of Botany*.

ZOOLOGY.

ENTOMOLOGY IN MISSOURI.—On pages 471–7, vol. vii, there is a flattering notice of the fifth Missouri Entomological Report, which notice, though lacking the familiar initials A. S. P., is, I infer, from the pen of one of the editors and a co-worker in the cause of economic entomology, who frequently writes over those letters. The notice contains some strictures which call for a reply:

(1) As morphology indicates by the presence of four pairs of jointed appendages in the head, and embryology demonstrates by their early presence, four rings in the head, our author's definition of an insect as 13-jointed does not express the whole truth. (2) He should say 17-jointed, or 14-jointed, counting the head as one, in a popular report of this sort. (3) Four rings can be demonstrated in the head of an insect as easily as that the petals of a flower are modified leaves.

(1) It hardly becomes one who, if my assumption is correct, has in his own writings put forth different opinions as to how many “typical” joints the head of an insect is composed of, to say with such assurance, that embryology “demonstrates” that it is composed of four. The comparatively few species that have been studied embryologically will scarcely warrant our receiving such a statement as an established fact, in face of the many objections that can be brought against it. Most morphologists, believing with Sir Jno. Lubbock that there exists between Crustacea and Insecta a physiological relation analogous to that existing between water and land vertebrata, have been inclined, with Straus-Durckheim, to consider the insect head as 7-jointed, and the insect body as 20-jointed. This is a very desirable number to